

Holy altruism: An instinct for self-sacrifice is evident in animal evolution

Rich Heffern | Feb. 14, 2011 Eco Catholic

One day years ago in early spring I took a walk with my 10-year-old niece through the forest and pastures surrounding our houses. At one point, we surprised a whippoorwill that was nesting on the ground in the midst of a grove of wild plum trees. Abandoning its lone nestling, the bird flew around us in circles, then landed on a nearby sapling. We could see that it was dragging one wing, trying to make us think it had been injured so that, if we happened to be hungry predators, we would go after the "easy prey" that was the parent rather than the newly hatched, more vulnerable child.

It gave us the opportunity to get a close look at a mysterious neighbor, often heard in the early evenings but seldom seen. About the size of a robin, the bird wore mottled feathers of about a dozen shades of grey, brown and black. Its oversized mouth bordered by whiskers, one could see it was well equipped for night hawking in the forest for moths. It perched on weak, spindly feet on the branch, teetering back and forth in uneasy equilibrium.

It's a particularly ugly bird, yet my niece was greatly impressed with its willingness as a parent to sacrifice itself for its brood. Visiting with her recently just after the birth of her first child, she reminded me of our encounter in that spring forest many years ago.

Examples of animal altruism abound. Dogs often adopt orphaned cats, squirrels and ducks. Dolphins support sick or injured animals, swimming under them for hours at a time and pushing them to the surface so they can breathe. Wolves and wild dogs bring meat back to members of the pack not present at the kill. Velvet monkeys give alarm calls to warn fellow monkeys of the presence of predators, even though in doing so they attract attention to themselves, increasing their personal chance of being attacked.

Extreme examples also occur. For example, in the spider species *Stegodyphus*, the mother is consumed by the offspring as soon as they are born.

Animal altruism has long been a problem for evolution theory. Charles Darwin's explanation of evolution by natural selection, or "survival of the fittest," promoted the idea that individuals having an advantage over others, however slight, would have the best chance of surviving and passing on their genes. Any variation that harms the species would be soon eradicated, thus a constant pruning goes on over generations, selecting for advantageous traits.

To fit self-sacrifice into the integrity and scope of its explanation for how species develop, evolution theorists talk of "kin selection." This theory proposes that most beneficiaries of altruistic behavior are relatives of the sacrificing animal. In helping a brother, sister or child, you are helping perpetuate genes very similar to your own. Reciprocal altruism (when one species helps out another) occurs because an animal that is helped now will be able to return aid at a later date.

The "problem of altruism" in evolutionary theory over the years has risen to become a central issue in the debate over the level at which natural selection operates, whether that be at the level of a gene, individual, kin group or even an entire population.

Science writer Eric Strong comments: "Altruism is one of the great mysteries of social behavior in animals, as it appears to contradict our understanding of natural selection. Even 100 years after the birth of Darwinism, scientists are still continuing to debate the causes and effects of altruistic behavior. Whether the mathematical model of group selection, the instinctive qualities of kin selection, or the trusting attributes of reciprocal altruism, are the prime explanations of the development of this behavior is largely unknown. In the end, it will probably be found that it is the combination of all three possibilities that plays a significant role in the natural world."

Infants as young as 18 months show altruistic behavior, suggesting humans have a natural tendency to be helpful, German researchers have discovered. In experiments reported in *Science*, toddlers helped strangers complete tasks such as stacking blocks. Young chimpanzees did the same, providing the first direct evidence of altruism in non-human primates. Altruism may have evolved over six million years ago in the common ancestor of chimps and humans, the study suggests. The study was carried out by researchers at the Max Planck Institute for Evolutionary Anthropology in Leipzig.

Is the evidence for animal and human altruism a finger pointing at God? In Buddhism, unselfish concern for the welfare of others is considered a fundamental property of human nature. It is certainly central to Jesus's teachings. Love for others that is strenuous enough to motivate extremes of self-sacrifice is both a marker of divinity's presence and on the human level true evidence of sanctity and holiness.

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